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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,573	07/27/2001	Thomas Marra	262/090	1029

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DAVID E. BENNETT
COATS & BENNETT P.L.L.C.
1400 CRESCENT GREEN
SUITE 300
CARY, NC 27511

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09-917,573

Applicant(s)

Marra et al.

Examiner

SHINGLETON

Group Art Unit

2817

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE Three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-20 ~~is~~ are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-20 ~~is~~ are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-8, 10-14, 16-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin et al. 4,320,352 (Rubin) in view of Furutani et al. 4,107,621 (Furutani).

Figure 1 of Rubin discloses a biasing circuit for biasing a device used for amplifying a radio frequency (RF) signal (See column 2, line 44). The biasing circuit includes an operational amplifier as the active element "6" which has a relatively low output impedance (See column 2, line 59). The biasing circuit of Rubin also includes a decoupling network 5 which passes DC but blocks RF, however, Rubin is silent on the exact decoupling circuit used. The amplifier device is a GaAs FET "1" in Rubin (See column 2, line 32).

Furutani discloses an art recognized equivalent network 14 to that of decoupling network 5 of Rubin. This conventional network includes an inductor 6, capacitor 7 and resistor 17 and operates in exactly the same manner as the decoupling network of Rubin (See column 4, lines 16-28).

As would have been well known to one of ordinary skill in the art, a decoupling network that includes an inductor, capacitor and resistor connected in the manner disclosed by Furutani is a conventional means for forming a decoupling network for a transistor biasing arrangement. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the decoupling means 14 of Furutani for the decoupling means 5 of Rubin because, as the Rubin reference is silent on the exact decoupling network, any art recognized equivalent decoupling network would have been usable therefor such as the conventional decoupling network shown by Furutani. The claims recite that the RF signal is an AM signal. This is a statement of intended use in so far as claims like claim 1 is concerned. Such statements do not provide a patentable distinction over the prior art of record. In any event as the Rubin reference is silent on the exact RF signal, any art recognized equivalent signal would have been useable therewith such as the conventional AM RF signal. The claims also recite that the active element has a "relatively" low output impedance over a bandwidth comparable to the amplitude modulation bandwidth and that the active element has a frequency bandwidth encompassing the

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amplitude modulation bandwidth of the RF signal. Since the active elements of Rubin and the disclosed invention are both operational amplifiers the "relatively low" output impedance bandwidth range and the bandwidth encompassing the amplitude modulation bandwidth of the RF signal is clearly met by the structure of Rubin. Alternatively, these bandwidth/impedance ranges are merely part of the optimum or workable range. As the selection of these ranges involves but routine skill in the art at the time the invention was made, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select any of these values for the active element of Rubin.

Claims like claim 13 recite the intended use for the amplifier, namely for use in a wireless communication device. This intended use does not provide for a patentable distinction in claims drawn to structure. In any event, as the Rubin reference is silent on the "device" use of the RF amplifier circuit, any conventional RF amplifier device use would have been usable therewith such as the conventional wireless communication device. Clearly Rubin is capable of operating in a wireless communication device.

Claims 3, 9, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin et al. 4,320,352 (Rubin) in view of Furutani et al. 4,107,621 (Furutani) as applied to claims 1, 2, 4-8, 10-14, 16-18, and 20 above, and further in view of Millman "Micro-electronics Digital and Analog Circuits and Systems" (Millman).

As it relates to claims like claim 3, here the operational amplifier that makes up the active element is recited as an inverting amplifier. The active element of Rubin is a non-inverting operational amplifier. Millman, however, discloses in the paragraph bridging pages 523 and 524 that the only difference is that non-inverting results in a positive amplification and inverting results in a negative amplification. Therefore, depending on the polarity of the power source, i.e. signal source and the required polarity of the transistor for proper operation these obvious design choices dictates whether a non-inverting unit is used or an inverting unit is used. This is common engineering practice and are art recognized equivalents. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a inverting operational amplifier with the opposite polarity signal in Rubin given the art recognized equivalence of these two arrangements as taught by Millman.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cubbison Jr. shows another active element biasing an amplifier.

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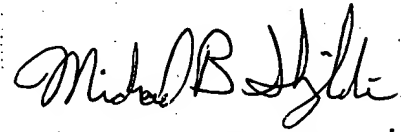
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is 703-308-4903. The examiner can normally be reached on Mon-Thurs from 8:30 to 4:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

MBS

September 18, 2002



**MICHAEL B SHINGLETON/
PRIMARY EXAMINER
GROUPART/INT 2817**